

Notes about the Genus *Eremocossus* HAMPSON, 1892

(Lepidoptera: Cossidae)

by

ROMAN V. YAKOVLEV

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Abstract: A brief review of *Eremocossus* HAMPSON, 1892 is presented. One new species, *Eremocossus nubica* **spec. nov.** from Sudan, and one new subspecies, *Eremocossus vaulogeri erebuni* **spec. nov.** from Armenia, are described. *Dyspessa foeda almeriana* DE FREINA & WITT, 1990 is given full specific rank. For *Hypopta asema* PÜNGELER, 1899 a new combination is proposed, and its specific status is confirmed.

Abbreviation list:

BMNH: British Museum Natural History (London, Great Britain).

MHUB: Museum für Naturkunde der Humboldt-Universität (Berlin, Germany).

MNHN: Muséum National d'Histoire Naturelle (Paris, France).

MNHS: Museum Natural History (Stockholm, Sweden).

MNHW: Naturhistorisches Museum (Wien, Austria).

MRAC: Museum Royal of Central Africa (Tervuren, Belgium).

MSW: Coll. MANFRED STRÖHLE (Weiden, Germany).

MWM: Museum of Thomas Witt (Munich, Germany).

ZISP: Zoological Institute of Russia Academy of Science (Sankt-Petersburg).

ZSSM: Zoologische Staatssammlung des Bayerischen Staates (Munich, Germany).

The genus *Eremocossus* HAMPSON, 1892 was proposed for *Phragmataecia faeda* SWINHOE, 1884, when it was described from southern Pakistan. This is perhaps the most taxonomically complicated genus of the Carpenter moths because of its scarcity in collections and unclear synonymy due to the loss of TURATI's types from Libya. For this reason, a detailed revision of the genus is impossible until topotypic specimens are obtained to design neotypes. Hence, in this work the taxa within the species (or species group) *E. vaulogeri* (STAUDINGER, 1897) are given as a short catalogue with provisional synonymy which cannot be taken as being definitive. The catalogue is illustrated with photographs of the available types and maps of type localities of all the taxa within this complex. The status of the type species of the genus, *E. foedus* (SWINHOE, 1884), is certain. The treatment of material in European collections has allowed the status of two earlier taxa (DANIEL, 1961) to be considered as subspecies of *E. vaulogeri* (STGR.). New taxa from Sudan and Armenia were discovered, which are described herein.

Genus *Eremocossus* HAMPSON, 1892

HAMPSON (1892), Fauna Brit. India 1: 313-314.

Type species: *Phragmataecia faeda* SWINHOE, 1884.

***Eremocossus foedus* (SWINHOE, 1884) (col. pl. 28: 1, fig. 1, map 1)**

Phragmataecia foeda Swinhoe, 1884, Proc. Zool. Soc. London **1884**: 515, pl. XLVII: fig. 1.

LT: Karachi, Pakistan.

Type material (syntypes) in BMNH.

Distribution: Pakistan (COTES & SWINHOE, 1887).

***Eremocossus nubica* spec. nov. (col. pl. 28: 2, fig. 2, map 2)**

Material: Holotype ♂, Sudan, Ed Damer, Hudeiba, 18.01.1962, leg. R. REMANE (ZSSM).

Paratypes: 3 ♂♂, same locality (ZSSM).

Description: Fore wing length 15 mm, wing expanse 31 mm. Thorax and abdomen densely covered with light-yellow hairs. Fore wing light-yellow, brownish at the outer margin, with a faint streaky pattern at the costal margin and medial areas; fringe light yellow. Hind wing white with a brownish border; fringe white.

♂ genitalia of the shape typical for the genus. Uncus broad with a rounded apex, tegumen somewhat broader than the uncus. Gnathos arms long, gnathos robust, well structured. Valva long and narrow, with a small crest at the costal margin. Arms of transtilla small, hook-like. Juxta very small. Aedeagus somewhat bent, with two pairs of very small spinule-like processes at the distal end.

Diagnosis: The new species distinctly differs from all other species of the genus by a weakly expressed wing pattern, very light coloration, a very broad uncus and a well expressed large gnathos.

Distribution: Sudan.

***Eremocossus vaulogeri* (STAUDINGER, 1897)**

Hypopta vaulogeri STAUDINGER, 1897, Dt. Ent. Z. Iris **10**: 155, Taf. 5: Fig. 13.

LT: Chellata, Prov. Alger.

Type material: Cotypes in MHUB.

Distribution: Senegal, Mauretania, Morocco, Algeria, Lybia, Tunisia, Egypt, Jordan, Israel, Syria, Egypt, Oman, Yemen, UAE, S. Iran, Iraq, Saudi Arabian (ANDRES & SEITZ, 1923; KIRIAKOFF, 1960; DE FREINA & WITT, 1990; DE FREINA, 1996; LEGRAIN & WILTSHIRE, 1998; HACKER, 1999).

***Eremocossus vaulogeri vaulogeri* (STAUDINGER, 1897) (col. pl. 28: 3–5, fig. 3, map 3)**

Distribution: Algeria, Lybia, Tunisia, Egypt.

Synonymy (provisory):

= *Endagria jordana suavis* STAUDINGER, 1899 (col. pl. 28: 6, map 3).

Endagria Jordana STGR. var. *Suavis* STAUDINGER, 1899, Dt. Ent. Z. Iris **12**: 355, Taf. 5: Fig. 7.

LT: Prov. Biskra [Algeria]

Type material: cotypes in MHUB.

= *Cossus saharae* LUCAS, 1907 (col. pl. 28: 7, map 3)

Cossus (?) *Saharae* LUCAS, 1907, Bull. Soc. ent. Fr. **1907**: 197.

LT: Zarcine, oasis du Kébili, Tunisie méridionale [Tunisia].

Type material: Holotype (by monotypy) in MNHN.

= *Dyspessa jordana maxima* TURATI, 1930 (col. pl. 28: 8, map 3)

Dyspessa jordana maxima TURATI, 1930, Atti Soc. It. Milano **69**: 54, tab. 2: fig.

LT: Cirenaica [Lybia].

Type material: Lost.

= *Dyspessa hartigi* REBEL, 1935 (col. pl. 28: 9, map 3)

Dyspessa Hartigi REBEL, 1935, Z. Österr. Ent. Ver. **20**: 19

LT: Tunesia merid., Bou Hedma.

Type material: Holotype (by original designation) in MNHW.

= *Dyspessa intermedia* KRÜGER, 1939 (map 3)

Dyspessa intermedia KRÜGER, 1939, Ann. Mus. Libico **1**: 332, tab. 13: fig. 16–17.

LT: Beni Ulid, Bir Dufan, Uadi Mimun c U. Soffegin (Cyrenaica).

Type material (cotypes) in Museum of Libya, Tripoli.

Eremocossus vaulogeri senegalensis LE CERF, 1919 (col. pl. 28: 10, map 3)

Eremocossus senegalensis LE CERF, 1919, Bull. Mus. nat. Hist. **25**: 27.

LT: Dakar [Senegal].

Type material: Holotype (by original designation) in MNHN.

Distribution: Senegal, ? Mauritania.

Eremocossus vaulogeri meirleirei (RUNGS, 1951) (col. pl. 28: 11–13, map 3)

Hypopta vaulogeri Meirleirei RUNGS, 1951, Bull. Soc. Sc. Nat. Maroc. **31**: 88.

LT: Sidi Srhir [Morocco].

Type material: Holotype (by original designation) in MNHN.

Distribution: Morocco.

Eremocossus vaulogeri jordana (STAUDINGER, 1897) (col. pl. 28: 14, map 3)

Hypopta jordana STAUDINGER, 1897, Dt. Ent. Z. Iris, 10: 272, Taf. 9: Fig. 12.

LT: Jordan

Type material (cotypes) in MHUB.

Distribution: Jordan, Israel, Syria, N. Egypt, Oman, Yemen, UAE, Saudi Arabian.

Eremocossus vaulogeri blanca (DANIEL, 1949) (col. pl. 28: 15, map 4)

Hypopta vaulogeri blanca DANIEL, 1949, Mitt. Münch. Ent. Ges. **35–39**: 237–238.

LT: Iran, Baloutchistan, Bender Tohabahr.

Type material: Holotype (by first designation) in MWM.

Synonymy:

= *Holcocerus baloutchistanensis* DANIEL, 1949 **syn. nov.** (col. pl. 28: 16, map 4)

Holcocerus baloutchistanensis DANIEL, 1949, Mitt. Münch. Ent. Ges. **35–39**: 239–240.

LT: Iran, Baloutchistan, Bender Tohabahr.

Type material: Holotype (by first designation) in MWM.

Distribution: Iraq, S. Iran.

Systematic notes: MNHS keeps several specimens from Iran (Baloutchistan, Bender, Tchahbahar, 3.3.38., coll. BRANDT), designated as the holotype and paratype of *Hypopta murati* BRANDT (pl. 28: 17). As far as I know, this name has not been published and hence is unavailable.

***Eremocossus vaulgeri erebuni* subspec. nov.** (col. pl. 28: 18, map 4)

Material: Holotype ♀, ArmSSR, Parak. exp., baza PRK-4, 7.6.[19]62 [Armenia, Parak] (ZISP).

Paratype ♀, Armenia, Chosrov env., [19]83.06, leg. ZUBASCHIK (MSW).

Description: Fore wing length 15 mm, wing expanse 31 mm. Body covered with greyish hairs. Fore wing dark grey with lightening in the center and a wide transversal postdiscal white band; fringe evenly grey. Hind wing plain grey with an even grey fringe.

Diagnosis. The new species differs from others by a weakly expressed wing pattern, a slanting white band and an evenly colored fringe on the fore wing.

Etymology. The new subspecies is named in honor of the ancient Armenian fortress Erebuni, constructed more than a thousand years ago.

Distribution: Armenia.

***Eremocossus asema* (PÜNGELER, 1899) comb.nov. et stat. rev.** (col. pl. 28: 19-21, fig. 4, map 4)

Hypopta asema PÜNGELER, 1899, Dt. Ent. Z. Iris **12**: 288, Taf. 8: Fig. 5.

Type locality: Askhabad [Turkmenistan].

Type material: Cotypes in MHUB.

Diagnosis: The species differs much from others of the genus by the wing pattern (a grey longitudinal streaky pattern on the fore wing) and peculiarities of the ♂ genitalia (larger lateral processes on the distal end of the aedeagus and a smaller juxta).

Distribution: Turkmenistan, ? NE Iran.

***Eremocossus almeriana* (DE FREINA & WITT, 1990) comb. nov. et stat. nov.** (col. pl. 28: 22-25, fig. 5, map 3)

Dyspessa foeda almeriana DE FREINA & WITT, 1990, NachrBl. Bayer. Ent. **39** (1): 23.

LT: SE-Spanien, Umg. Alicante.

Type material (holotype by original designation) in MWM.

Diagnosis: the species differs much from other species of the genus by the fore wing features (broader and shorter, with a specific pattern of alternating light and grey elements) and peculiarities of the ♂ genitalia (reduced lateral processes on the aedeagus at the distal end).

Distribution: S. Spain (Alicante and Almeria prov.).

Discussion: The genus *Eremocossus* HAMPSON, 1892 has a West Palearctic distribution inhabiting arid and sub-arid areas of North Africa and Western Eurasia and includes five species of which four are narrow endemics in southern Spain, Sudan, Kara-Kum Desert, and southern Pakistan. The status of the taxon *erebuni* YAKOVLEV, herein described in a subspecies rank, is still unclear. However, the ♀ genitalia do not sit well with this group and so do not allow evaluation.

It would be interesting to follow the southern border of the genus range; probably it extends up to Chad and Niger.

Interestingly, Arabia and Sakhara exhibit a high variability in their habitats while the taxa from the periphery of the genus range demonstrate stability within their external characters.

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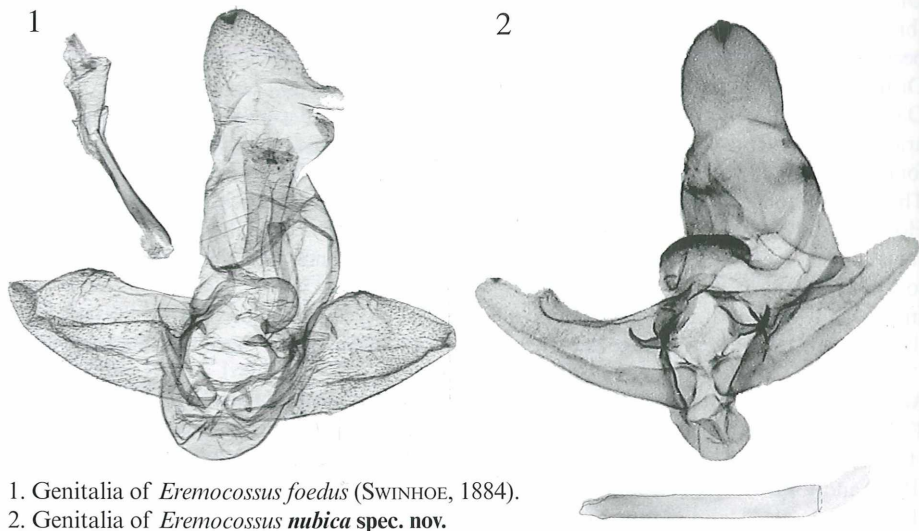
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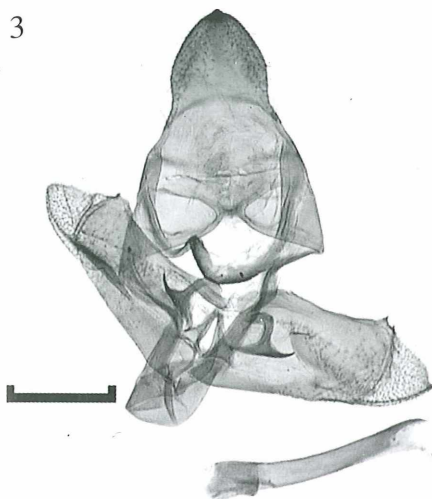
Address of the author

ROMAN V. YAKOVLEV
Chkalova 57–81
Barnaul, 656049, Russia
e-mail: cossus_cossus@mail.ru

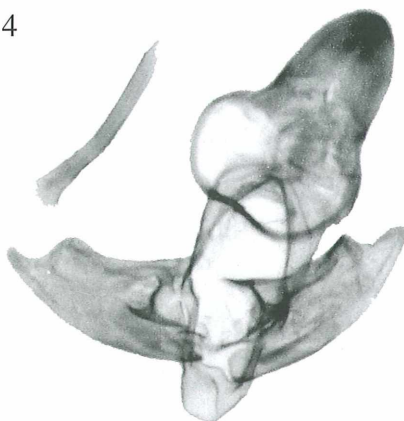


1. Genitalia of *Eremocossus foedus* (SWINHOE, 1884).
2. Genitalia of *Eremocossus nubica* spec. nov.

3

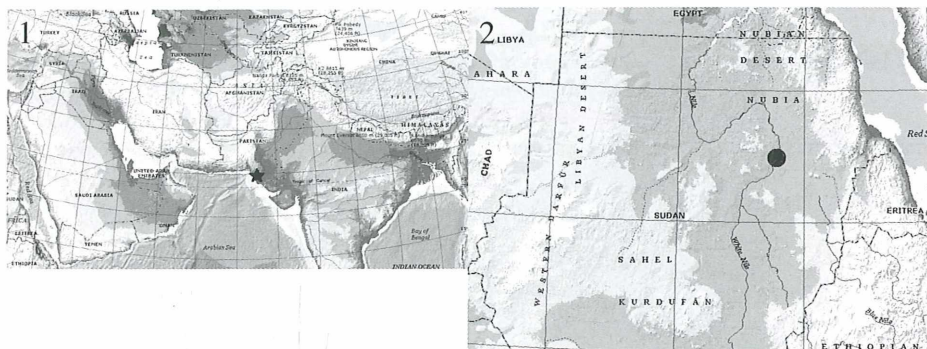


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3. Genitalia of *Eremocossus vaulogeri* subsp. (Syria).

4. Genitalia of *Eremocossus almeriana* (DE FREINA & WITT, 1990).

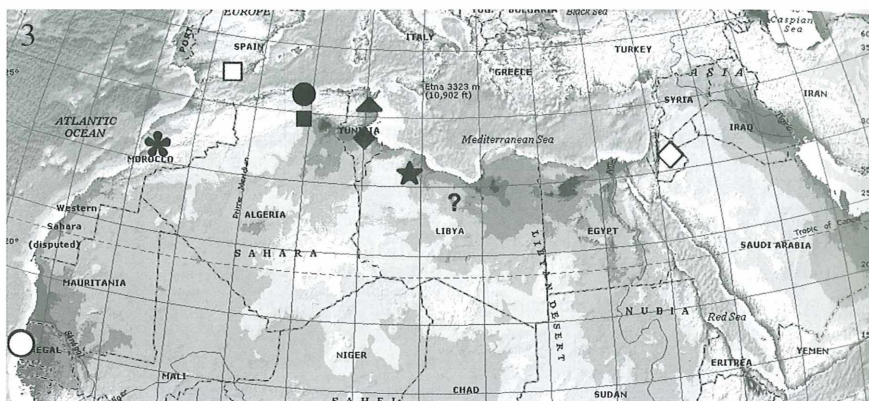


1. Type locality of *Eremocossus foedus* (SWINHOE, 1884).

2. Type locality of *Eremocossus nubica* spec. nov.

3. Type localities of taxa of Genus *Eremocossus*:

4. Type localities of: *Eremocossus vaulogeri balcana* (DANIEL, 1949), *Eremocossus vaulogeri erebuni* subsp. nov., *Eremocossus asema* (PÜNGELER, 1899)



map 3. Type localities of taxa of Genus *Eremocossus*:

- *vaulgeri* Staudinger, 1897
- *suavis* Staudinger, 1899
- ▲ *saharae* Lucas, 1907
- ? *maxima* Turati, 1930
- ◆ *hartigi* Rebel, 1935

- ★ *intermedia* Kruger, 1939
- *senegalensis* Le Cerf, 1919
- ✿ *meirleirei* Rungs, 1951
- ◇ *jordana* Staudinger, 1897
- *almeriana* de Freina & Witt, 1990



map 4. Type localities of:

- *Eremocossus vaulgeri balcana* (DANIEL, 1949)
- *Eremocossus vaulgeri erebuni* subsp. nov.
- ★ *Eremocossus asema* (PÜNGELER, 1899)

Legend to colour plate 28, p. 443:

1. Holotype of *Phragmataecia foeda* SWINHOE, 1884.
2. Holotype of *Eremocossus nubica* **spec. nov.**
3. *Eremocossus vaulogeri vaulogeri* (STAUDINGER, 1897), ♂, Ain Sefra, South of Oran [Algeria], 6 May 1913 (BMNH).
4. *Eremocossus vaulogeri vaulogeri* (STAUDINGER, 1897), ♀, Ain Sefra, South of Oran [Algeria], 6 May 1913 (BMNH).
5. *Eremocossus vaulogeri vaulogeri* (STAUDINGER, 1897), ♀, Libya, Sahara, Zella, 1.10–30.11.2001, leg. STUMMER (MSW).
6. *Eremocossus vaulogeri* ? *vaulogeri* (STAUDINGER, 1897), syntype ♂ of *Endagria Jordana* STGR. var. *Suavis* STAUDINGER, 1899.
7. *Eremocossus vaulogeri* ? *vaulogeri* (STAUDINGER, 1897), holotype ♂ of *Cossus saharae* LUCAS, 1907.
8. *Eremocossus vaulogeri* ? *vaulogeri* (STAUDINGER, 1897), labels of cotype of *Dyspessa jordana maxima* TURATI, 1930.
9. *Eremocossus vaulogeri* ? *vaulogeri* (STAUDINGER, 1897), holotype of *Dyspessa hartigi* REBEL, 1935.
10. Holotype of *Eremocossus vaulogeri senegalensis* LE CERF, 1919.
11. Paratype ♂ of *Eremocossus vaulogeri meirleirei* (RUNGS, 1951) (MWM).
12. Paratype ♀ of *Eremocossus vaulogeri meirleirei* (RUNGS, 1951) (MNHN).
13. *Eremocossus vaulogeri meirleirei* (RUNGS, 1951) ♂, Tunisie, 68 km W Medenine, 14.05.1991, leg. FASTRE (MWM).
14. Cotype ♂ of *Eremocossus vaulogeri jordana* (STAUDINGER, 1897).
15. Holotype of *Eremocossus vaulogeri blanca* (DANIEL, 1949).
16. *Eremocossus vaulogeri blanca* (DANIEL, 1949), holotype ♂ of *Holcocerus baloutchistanensis* DANIEL, 1949.
17. *Eremocossus vaulogeri blanca* (DANIEL, 1949), holotype ♂ (sic!) of *Hypopta murati* BRANDT
18. Holotype ♀ of *Eremocossus vaulogeri erebuni* **subspec. nov.**
19. Cotype ♂ of *Eremocossus asema* (PÜNGELER, 1899).
20. *Eremocossus asema* (PÜNGELER, 1899), ♂, Turkmenistan, Kara-Kum desert, 50 km SE Tedjen, 11.5.91, leg. DANILEVSKY (MWM).
21. *Eremocossus asema* (PÜNGELER, 1899), ♀, Turkmenistan, lake Kara-Togolek, 21.5.[19]92, leg. J. LUIG (MSW).
22. Holotype of *Eremocossus almeriana* (DE FREINA & WITT, 1990).
23. *Eremocossus almeriana* (DE FREINA & WITT, 1990), ♂, Spain, Almeria prov, 5 km westl. Rioja, 28.-31.5.1991, leg. G. BEHOUNEK (MWM).
24. *Eremocossus almeriana* (DE FREINA & WITT, 1990), ♂, Spain, Sierra Alhamilla, Tabernas, 2.-14.05.2007, leg. STRÖHLE (MSW).
25. *Eremocossus almeriana* (DE FREINA & WITT, 1990), ♀, Spain, Sierra Alhamilla, Tabernas, 2.-14.05.2007, leg. STRÖHLE (MSW).
26. *Eremocossus almeriana* (DE FREINA & WITT, 1990), ♀, Spain, Almeria prov, 5 km westl. Rioja, 28.-31.5.1991, leg. G. BEHOUNEK (MWM).